

RELATED APPLICATION DATA

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The present application is related to U.S. Patent Application Serial No. 09/490,761 (Attorney Docket No. CISCP131), filed on January 24, 2000, and U.S. Patent Application Serial No. 09/606,503 (Attorney Docket No. CISCP145), filed June 28, 2000, which claims priority under 35 USC 119(e) from U.S. Provisional Patent Application Serial No. 60/159,085 (Attorney Docket No. CISCP131P), filed on October 13, 1999. The present application is also related to U.S. Patent Application Serial No. 7,139,923 (Attorney Docket No. CISCP230), filed concurrently herewith, naming Chapman, et. al., as inventors. Each of these applications is incorporated herein by reference in its entirety for all purposes.

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BACKGROUND OF THE INVENTION

This invention relates to digital computer network technology. More specifically, the present invention relates a new fiber node configuration to be implemented in cable networks.

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Broadband access technologies such as cable, fiber optic, and wireless have made rapid progress in recent years. Recently there has been a convergence of voice and data networks which is due in part to US deregulation of the telecommunications industry. In order to stay competitive, companies offering broadband access technologies need to support voice, video, and other high-bandwidth applications over their local access networks. For networks that use a shared access medium to communicate between subscribers and the service provider (e.g., cable networks, wireless networks, etc.), providing reliable high-quality voice/video communication over such networks is not an easy task.

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One type of broadband access technology relates to cable modem networks. A cable modem network or "cable plant" employs cable modems, which are an improvement of conventional PC data modems and provide high speed connectivity. Cable modems are therefore instrumental in transforming the cable system into a full service provider of video, voice and data telecommunications services. Digital data on upstream and downstream channels of the cable network is carried over radio frequency ("RF") carrier signals. Cable modems convert digital data to a modulated RF signal for

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